

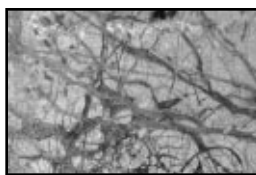


National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Surfing survey

The *Space News Roundup* conducts a survey on how the Internet helps employees on the job. Story on Page 3.



Icy Europa

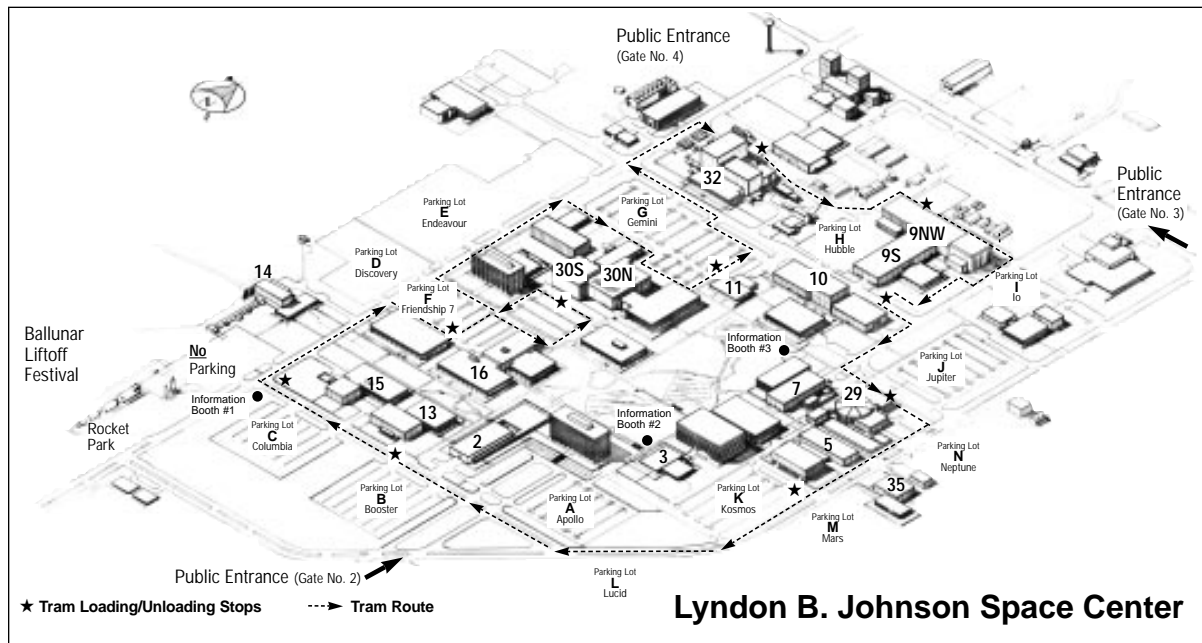
Images from Galileo spacecraft show possible liquids on Jupiter's moon Europa. Story on Page 4.

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Visitors to JSC's open house will have access to more buildings this year. Buildings that will be open are numbered in the map above. Trams will circle JSC and stop at designated locations. Presentations in Teague Auditorium will focus on *Americans in Space*, *Building for the Future*. Guests also will have access to Ellington Field and the Neutral Buoyancy Laboratory at the Sonny Carter Training Facility.

Atlantis rolls to pad next week

Remating complete as crew gears up for dress rehearsal

With blastoff of the fourth Mir docking flight on track for next month, engineers at Kennedy Space Center this week finished remating the shuttle *Atlantis* to a new set of solid rocket boosters and fuel tank, setting the stage for its return to Launch Pad 39A next Tuesday.

Atlantis was outfitted with new boosters and a tank after NASA managers decided last month to delay the STS-79 mission to replace suspect boosters and increase the margin of safety. After it is rolled back to its launch pad, *Atlantis* will await the arrival of STS-79 astronauts on Aug. 28 for a dress rehearsal of the countdown that will lead to their launch around Sept. 12.

Commander Bill Readdy, Pilot Terry Wilcutt and Mission Specialists Jay Apt, Tom Akers, Carl Walz and John Blaha will fly to KSC on Aug. 25 for Terminal Countdown Demonstration activities.

Blaha spent the week back in Russia, brushing up on Mir systems and language training, as he prepared for a four and a half month stay on Mir to succeed Shannon Lucid, who is wrapping up her 21st week in space.

Blaha flew to Kazakhstan and the Baikonur Cosmodrome Thursday to view Saturday's scheduled launch of his future crew mates, Mir 22 Commander Valery Korzun and Flight Engineer Alexander Kaleri, who, along with French Researcher Claudie Andre-Deshays, will blastoff on a Soyuz TM-24 rocket for a docking with Mir on Monday.

Korzun and Kaleri will join Lucid aboard Mir and then will be joined by Blaha once *Atlantis* reaches Mir next

month. Andre-Deshays will return to Earth on Sept. 2 with Mir 21 Cosmonauts Yuri Onufrienko and Yuri Usachev after two weeks of scientific research. Lucid will return home with the STS-79 crew at the completion of *Atlantis'* joint docking mission, leaving Korzun, Kaleri and Blaha aboard Mir for the rest of the year.

Meanwhile, *Columbia* is receiving refurbished main engines as preparations continue for its launch around Oct. 31 to deploy a pair of satellites and to conduct a pair of space walks. *Columbia's* five-person crew—Commander Ken Cockrell, Pilot Kent Rominger and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave—will spend 16 days in orbit.

STS-80 will mark the third flight of the Wake Shield Facility that flew on STS-60 and STS-69 and the second flight of the Orbiting Retrievable Far and Extreme Ultraviolet Spectrometer, or ORFEUS-SPAS, satellite which flew on STS-51. The saucer-shaped WSF is designed to fly free of the shuttle, creating a super vacuum in its wake to grow thin film wafers for use in semiconductors. The ORFEUS-SPAS will study the origin and makeup of stars.

Astronauts Jernigan and Jones will conduct a space walk to test hardware aimed at refining assembly techniques for the International Space Station.

Discovery is undergoing routine work as technicians ready it for launch next February on the second Hubble Space Telescope servicing mission. *Discovery's* astronauts continue space walk training and mission research, led by veteran Commander Ken Bowersox.



Crew members named to life science mission

Two mission specialists have been named to a 16-day space shuttle mission dedicated to gather information on how humans and animals adapt to space and the ability of humans to survive in a microgravity environment for an extended period of time.

Astronauts Rick Linnehan and Dave Williams of the Canadian Space Agency are the first crew members named to support the STS-90 Neurolab mission, scheduled for launch in March 1998. The remaining crew members will be named at a later date.

Investigations during the Neurolab mission will focus on the effects of microgravity on the nervous system. Specifically, experiments will study the adaptation of the vestibular system and space adaptation syndrome, the adaptation of the central nervous system and the pathways which control the ability to sense location in the absence of gravity, and the effect of microgravity on a devel-

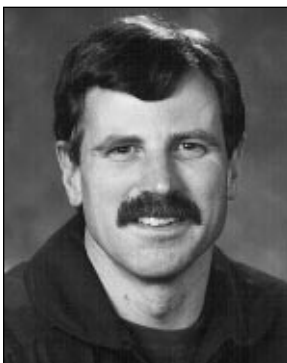
oping nervous system.

Selected by NASA in March 1992, Linnehan was assigned to flight software verification in the Shuttle Avionics Integration Laboratory. He was subsequently assigned to the Astronaut Office Mission Development Branch, working on payload and mission development flight support for future space shuttle missions. Linnehan flew previously on *Columbia's* record setting 17-day Life and Microgravity Science mission in June-July 1996.

Williams was selected by the Canadian Space Agency in 1992 and appointed manager of the Missions and Space Medicine Group within the Canadian Astronaut Program. In January 1995, Williams was selected to join the international class of NASA astronaut candidates. Williams is presently working technical issues for the Payloads Habitability Branch. Williams will be making his first flight into space.



Linnehan



Williams

JSC open house provides close up look of space

By Steve Nesbitt

JSC employees will open the doors of NASA's laboratories, training facilities and Mission Control Center and welcome the Houston community behind the scenes of the nation's space program during the second annual JSC Open House on Aug. 24.

The JSC Open House is a once-a-year opportunity for the public to get a close-up look at the space program's activities and operations. This year, 18 on-site buildings, plus JSC's aircraft operations at Ellington Field and the new Sonny Carter Training Facility, will be open for inspection. Favorite activities from last year have returned and more interactive demonstrations have been added.

The Open House, scheduled for 9 a.m.-4 p.m., is free to the public. Visitors may enter the center through three gates not normally open to the public—on NASA Road 1 just east of Saturn Blvd., on Space Center Blvd. near Bay Area Blvd. and on Space Center Blvd. near NASA Road 1. Parking in JSC lots will be available at no charge.

Open House guests will be able to see the simulators where astronauts train to fly the space shuttle and work aboard the International Space Station; tour the new Mission Control Center; inspect aircraft at Ellington Field; see the new Neutral Buoyancy Lab in the Sonny Carter Training Facility where astronauts will practice space walks for future missions; watch a demonstration of the suits used in space walks by both the U.S. and Russian space programs; and view a Martian meteorite.

Also during the day, JSC astro-

nauts, engineers and scientists will give presentations highlighting JSC's achievements since the 1995 Open House. All presentations will be in the Teague Auditorium. The schedule is:

9:30 a.m. "Go for Orbit Ops: Shuttle Highlights from the Past Year." Astronaut crew members from six different shuttle missions discuss their missions.

10:30 a.m. "Close Encounters in Space: Shuttle/Mir Rendezvous Highlights." Astronauts and flight directors discuss the most recent shuttle missions to rendezvous with the Russian Mir Space Station.

11:30 a.m. "Living and Working on Mir: Space Station Phase I." Program managers and crew members discuss

the first step toward the International Space Station — the flight of Astronauts on the Russian Mir Space Station.

1 p.m. "Life Out There: Findings from a Martian Meteorite." The scientists who recently discovered evidence of primitive life in a Martian meteorite will discuss their work.

2 p.m. "Space Technology in Your World: Real-Life Applications of NASA Technology." Dr. Michael DeBakey from the Texas Medical Center joins other scientists and engineers in discussing the impact of space technology on the field of medicine and in other areas of daily life.

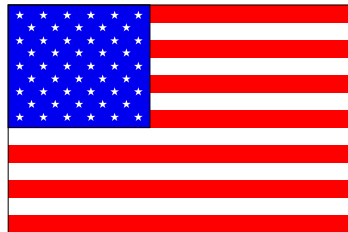
3 p.m. "The Road Ahead: Exploration and Development." Space Veteran John Young and others discuss returning to the moon and future space exploration.

Other events include educational activities for children, autographing

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JSC Open House

TEAM  NASA



JOHNSON SPACE CENTER

1996

Mir 22 backup crew to launch

The Mir 22 backup crew will be pressed into service for a Saturday launch to the Russian Mir Space Station after doctors diagnosed a possible health problem in primary Commander Gennady Manakov.

Mir 22 Commander Valery Korzun and Flight Engineer Alexander Kaleri replaced Manakov and Pavel Vinogradov after Manakov failed to pass a preflight electrocardiograph test for unspecified reasons. Vinogradov now becomes the flight engineer for the Mir 24 mission next June and will be joined by veteran Mir Commander Yuri Gidzenko.

Korzun and Kaleri, along with French Researcher Claudie Andre-Deshays, will blastoff on a Soyuz TM-24 rocket approximately 8:18 a.m. Saturday from the Baikonur launch site in Kazakhstan, docking with Mir on Monday.

"That will be a very exciting time here on station Mir," said Cosmonaut Researcher Shannon Lucid in an interview earlier this week. "French Cosmonaut Andre-Deshays will be here and we will be doing all

of the various French experiments, and that will be very exciting."

Astronaut John Blaha, who has been in Russia this week brushing up on Mir systems and language training, will join the Mir crews once *Atlantis* reaches Mir during STS-79. Andre-Deshays will return to Earth on Sept. 2 with Mir 21 Commander Yuri Onufrienko and Flight Engineer Yuri Usachev after two weeks of scientific research. Lucid will return home with the STS-79 crew at the completion of *Atlantis'* joint docking mission, leaving Korzun, Kaleri and Blaha aboard Mir for the rest of the year.

Please see **LUCID**, Page 4

